

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) ~~The~~A carbon monoxide concentration reduction apparatus according to claim 9, wherein ~~apparatus, comprising:~~a hydrogen-rich gas supply that supplies the hydrogen-rich gas;
an oxygen supply that supplies oxygen used for oxidizing the carbon monoxide;
a carbon monoxide selective oxidizing catalyst, comprising
a carrier, the carrier comprising pores having a maximum allowable pore diameter of 0.65 nanometers (nm); and
a metal component supported on the carrier and which includes one of platinum (Pt) alone and platinum (Pt) and at least one type of transition metal, wherein when the carbon monoxide selective oxidizing catalyst receives a supply of a hydrogen-rich gas containing carbon monoxide, the carbon monoxide selective oxidizing catalyst promotes a carbon monoxide selective oxidizing reaction that oxidizes the carbon monoxide by giving the carbon monoxide priority over hydrogen; and
a carbon monoxide selective oxidizing reactor that includes the carbon monoxide selective oxidizing catalyst and receives a supply of the hydrogen-rich gas and the oxygen from the hydrogen-rich gas supply and the oxygen supply, respectively, to selectively oxidize carbon monoxide contained in the hydrogen-rich gas through the carbon monoxide selective oxidizing reaction, wherein the carbon monoxide concentration reduction apparatus oxidizes the carbon monoxide contained in the hydrogen-rich gas, thereby reducing a carbon monoxide concentration in the hydrogen-rich gas;

the carrier consists of ferrierite; and
the transition metal is at least one type of metal selected from the group consisting of cobalt (Co), manganese (Mn), chromium (Cr), and iridium (Ir).

2. (Previously Presented) The carbon monoxide concentration reduction apparatus according to claim 1, wherein the transition metal is at least one type of metal selected from the group consisting of cobalt (Co), and manganese (Mn).

3-5. (Canceled)

6. (Previously Presented) The carbon monoxide concentration reduction apparatus according to claim 1, wherein the carbon monoxide selective oxidizing catalyst is subjected to a reduction processing before being used in order to promote the carbon monoxide selective oxidizing reaction after the metal component has been supported on the carrier.

7. (Previously Presented) The carbon monoxide concentration reduction apparatus according to claim 6, wherein the reduction processing is performed at a temperature higher than a temperature of the hydrogen-rich gas used for the carbon monoxide selective oxidizing reaction.

8. (Previously Presented) The carbon monoxide concentration reduction apparatus according to claim 6, wherein the reduction processing is performed at 150 to 370°C.

9. (Canceled)

10. (Currently Amended) A fuel cell system provided with a fuel cell that receives a supply of a fuel gas containing hydrogen and an oxidizing gas containing oxygen, and that obtains an electromotive force through an electrochemical reaction, the fuel cell system comprising:

a fuel gas supply that supplies the fuel cell with the fuel gas, wherein the fuel gas supply is provided with the carbon monoxide concentration reduction apparatus according to ~~claim 9, and claim 1, and~~ supplies the fuel cell with a hydrogen-rich gas whose carbon monoxide concentration has been reduced using the carbon monoxide concentration reduction apparatus as the fuel gas.

11-21. (Cancelled)

22. (Currently Amended) ~~The~~ A carbon monoxide concentration reduction apparatus ~~according to claim 9, wherein~~ apparatus, comprising:

a hydrogen-rich gas supply that supplies the hydrogen-rich gas;
an oxygen supply that supplies oxygen used for oxidizing the carbon monoxide;
a carbon monoxide selective oxidizing catalyst, comprising
a carrier consisting of ferrierite and/or ZSM-5, the carrier comprising
pores having a maximum allowable pore diameter of 0.65 nanometers (nm); and
a metal component supported on the carrier, wherein
when the carbon monoxide selective oxidizing catalyst receives a
supply of a hydrogen-rich gas containing carbon monoxide, the carbon monoxide selective
oxidizing catalyst promotes a carbon monoxide selective oxidizing reaction that oxidizes the
carbon monoxide by giving the carbon monoxide priority over hydrogen; and
a carbon monoxide selective oxidizing reactor that includes the carbon
monoxide selective oxidizing catalyst and receives a supply of the hydrogen-rich gas and the
oxygen from the hydrogen-rich gas supply and the oxygen supply, respectively, to selectively
oxidize carbon monoxide contained in the hydrogen-rich gas through the carbon monoxide
selective oxidizing reaction, wherein

the carbon monoxide concentration reduction apparatus oxidizes the carbon monoxide contained in the hydrogen-rich gas, thereby reducing a carbon monoxide concentration in the hydrogen-rich gas;

the catalyst is provided with a metal component including includes platinum (Pt) and at least one type of transition metal, and achieves a carbon monoxide reduction rate of at least 90% when the carbon monoxide selective oxidizing reaction is performed under conditions (a) through (c):

(a) contents of components other than hydrogen in the hydrogen-rich gas are as follows: a carbon monoxide concentration is about 5000 ppm; a carbon dioxide concentration is about 25%; and an oxygen content is such that a molar ratio value between oxygen atoms and carbon monoxide molecules ($[O]/[CO]$) is 1;

(b) a space velocity is about 22000h^{-1} when the hydrogen-rich gas is supplied onto the carbon monoxide selective oxidizing catalyst; and

(c) a reaction temperature is 130°C ; and wherein the transition metal is at least one type of metal selected from the group consisting of cobalt (Co), manganese (Mn), chromium (Cr), and iridium (Ir).

23. (Previously Presented) The carbon monoxide concentration reduction apparatus according to claim 22, wherein the carbon monoxide reduction rate of 98% or higher is achieved when the carbon monoxide selective oxidizing reaction is performed under the conditions (a) through (c).

24-40. (Canceled)

41. (Currently Amended) The A carbon monoxide concentration reduction apparatus according to claim 9, wherein apparatus, comprising:

a hydrogen-rich gas supply that supplies the hydrogen-rich gas;

an oxygen supply that supplies oxygen used for oxidizing the carbon monoxide;

a carbon monoxide selective oxidizing catalyst, comprising

a carrier, the carrier comprising pores having a maximum allowable pore diameter of 0.65 nanometers (nm); and

a metal component supported on the carrier and which includes one of platinum (Pt) alone and platinum (Pt) and at least one type of transition metal, wherein

when the carbon monoxide selective oxidizing catalyst receives a supply of a hydrogen-rich gas containing carbon monoxide, the carbon monoxide selective oxidizing catalyst promotes a carbon monoxide selective oxidizing reaction that oxidizes the carbon monoxide by giving the carbon monoxide priority over hydrogen; and

a carbon monoxide selective oxidizing reactor that includes the carbon monoxide selective oxidizing catalyst and receives a supply of the hydrogen-rich gas and the oxygen from the hydrogen-rich gas supply and the oxygen supply, respectively, to selectively oxidize carbon monoxide contained in the hydrogen-rich gas through the carbon monoxide selective oxidizing reaction, wherein

the carbon monoxide concentration reduction apparatus oxidizes the carbon monoxide contained in the hydrogen-rich gas, thereby reducing a carbon monoxide concentration in the hydrogen-rich gas;

the carrier consists of ZSM-5; and

the transition metal is at least one type of metal selected from the group consisting of cobalt (Co), manganese (Mn), chromium (Cr), and iridium (Ir).

42. (New) A fuel cell system provided with a fuel cell that receives a supply of a fuel gas containing hydrogen and an oxidizing gas containing oxygen, and that obtains an electromotive force through an electrochemical reaction, the fuel cell system comprising:

a fuel gas supply that supplies the fuel cell with the fuel gas, wherein the fuel gas supply is provided with the carbon monoxide concentration reduction apparatus according to claim 41, and supplies the fuel cell with a hydrogen-rich gas whose carbon monoxide concentration has been reduced using the carbon monoxide concentration reduction apparatus as the fuel gas.

43. (New) A fuel cell system provided with a fuel cell that receives a supply of a fuel gas containing hydrogen and an oxidizing gas containing oxygen, and that obtains an electromotive force through an electrochemical reaction, the fuel cell system comprising:

a fuel gas supply that supplies the fuel cell with the fuel gas, wherein the fuel gas supply is provided with the carbon monoxide concentration reduction apparatus according to claim 22, and supplies the fuel cell with a hydrogen-rich gas whose carbon monoxide concentration has been reduced using the carbon monoxide concentration reduction apparatus as the fuel gas.